

Feasibility Study/Cleanup Plan Summary

Hookston Station

Pleasant Hill, CA



Fact Sheet

July 2006

This is one in a series of fact sheets prepared by the Regional Water Quality Control Board, San Francisco Bay Region (Water Board) to inform community residents about the environmental impacts and proposed remediation work for the Hookston Station Parcel and surrounding areas. The Water Board is the regulatory agency responsible for overseeing the environmental investigations and cleanup work. The purpose of this fact sheet is to present the newly-developed Feasibility Study (cleanup plan) to the public. We invite local residents and other interested parties to be part of the public participation and involvement process for environmental clean-up activities. A 30-day public comment period on this cleanup plan is being held from August 1 to September 1, 2006.

A glossary of technical terms used in this fact sheet is included on page 4. Words in the *glossary are printed in italics the first time they appear in this fact sheet.*

About the Hookston Station Site

Hookston Station is an 8-acre parcel located at the intersection of Hookston and Bancroft Roads in Pleasant Hill, California (Figure 1). The site is currently occupied by commercial and light industrial businesses.

The site was formerly owned by the Southern Pacific Transportation Company and was used for a rail line and a station (Hookston Station). The property was transferred from Southern Pacific to Mr. Daniel Helix and seven other individuals in 1983, and the eastern portion of the site was subsequently purchased by the Contra Costa County Redevelopment Agency (CCCRA) in 1989. Union Pacific Railroad Company (UPRR) assumed responsibility for Southern Pacific's portion of the project following the merger with Southern Pacific in 1997. The Water Board has designated UPRR, Daniel Helix, Mary Lou Helix, Elizabeth Young, John Hook, Steven Pucell, Nancy Ellicock, and the CCCRA as the Responsible Parties (RPs) for the Hookston Station site cleanup.

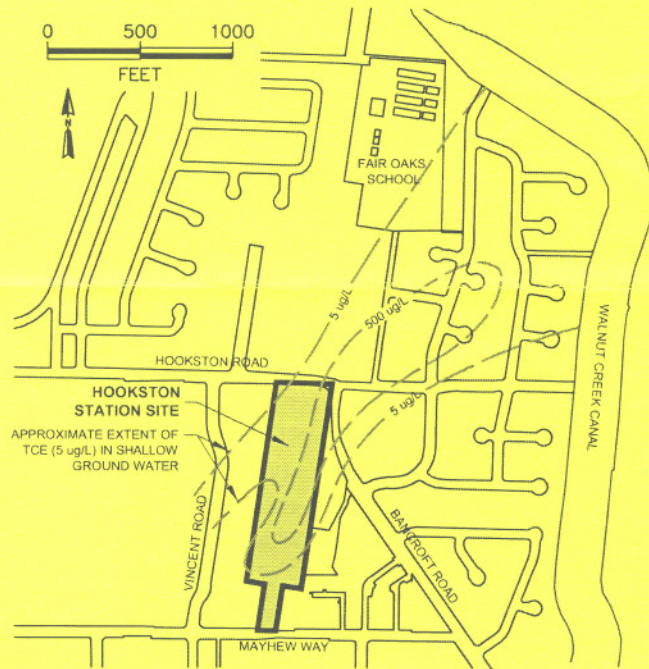


Figure 1: Site Location Map, showing extent of shallow groundwater plume.

Please join us....

The Regional Water Quality Control Board will host a community meeting and accept public comments regarding the Feasibility Study for Hookston Station.

Public Comment Period – August 1-September 1, 2006

Upcoming Public Meeting – Fair Oaks Elementary School, 2400 Lisa Lane, Concord, CA

August 10, 2006, 6:30-9:30 PM

See Page 5 for contact information and where you can review site-specific documents.

Environmental Conditions

Investigations regarding environmental impacts to soil and ground water at the site were initially conducted between 1989 and 1996. These investigations discovered the presence of both petroleum-based products (such as gasoline) and chlorinated solvents (which are commonly used as degreasers) in the soil and ground water at the site. The chlorinated solvents are *volatile organic compounds*, also known as VOCs.

Depth to ground water at the site is about 25 to 30 feet below ground surface. Ground water is not a source of drinking water because all residences and businesses are served by Contra Costa Water District. Some homes in the area have back yard wells that are used for irrigation and filling swimming pools. Site investigation data show that ground water contamination from Hookston Station and other properties has commingled and migrated in a northeast direction, and has impacted an area of approximately 35 acres (see Figure 1). VOCs have been detected in shallow ground water at concentrations above drinking water standards set by the state and the federal government. VOCs can migrate from ground water through the soil as a gas. The solvent trichloroethylene (TCE) has been detected in the indoor air of several homes located over the core of the ground water VOC plume. In a small number of homes, the concentrations of TCE in indoor air are slightly above regulatory risk-based screening levels.

Although the Hookston Station Responsible Parties are currently performing environmental investigations and cleanup at the Hookston Station site, the environmental releases that resulted in the current soil and ground water impacts were not caused by any of these parties. Further, some of the ground water contamination originated from properties owned by others in the vicinity of the Hookston Station site. The Water Board has concluded that contaminants such as *PCE* and *MTBE* did not originate on the Hookston Station site. The owners of properties at 3301-3341 Vincent Road, 3343-3355 Vincent Road, and 81 Mayhew Way have initiated remedial investigations into potential solvent releases, and the owner of the Haber Oil facility at 220 Hookston Road is investigating releases of MTBE and other fuel constituents. The Water Board will require other responsible parties to conduct additional investigation and cleanup, as appropriate.

Risk Assessment

In 2006, the Water Board approved the *Baseline Risk Assessment* for the Hookston Station Parcel and downgradient study area, which concluded that several current or potential exposure pathways exist, including vapor intrusion to indoor air, exposure to ground water via private wells, and direct exposure to contaminated soil on the Hookston Station property (e.g., during any construction). The Hookston Station RPs have voluntarily installed vapor intrusion prevention systems in some homes where the concentrations of TCE in indoor air were above regulatory risk-based screening levels. The RPs have also voluntarily removed some private irrigation wells to prevent public exposures in areas impacted in whole or in part from chemicals originating from the Hookston Station Parcel.

Remedial Action Objectives

The following Remedial Action Objectives (RAOs) were developed in the *Feasibility Study* (FS) for the Hookston Station Parcel and downgradient study area:

1. Protect human health from potentially impacted indoor air by reducing concentrations of chemicals that originate from the Hookston Station Parcel in indoor air to levels of one-in-a-million theoretical lifetime excess cancer risk for carcinogens, or a hazard index of 1 for non-carcinogenic risks.
2. Protect human health from possible future consumption or contact with ground water containing chemicals above risk-based cleanup goals that originate from the Hookston Station Parcel by preventing future extraction of VOC-impacted ground water for beneficial uses (e.g., domestic, municipal, or industrial water supply) until the final ground water cleanup goals are achieved.
3. Protect human health from incidental ingestion, dermal contact, and inhalation of particles from subsurface soil (deeper than 0.5 feet bgs) at a limited area on the Hookston Station Parcel.
4. Achieve restoration of ground water impacted by chemicals that originate from the Hookston Station Parcel for existing and potential beneficial uses.

Feasibility Study Alternatives

The FS was developed to evaluate potential remedial alternatives and develop a cleanup plan. The RPs considered many cleanup options, which were compared and contrasted against one another in the FS. The various cleanup alternatives are summarized below:

Alternative 1: No Action

This alternative consists of conducting no cleanup work at the site. Consideration of the “no action” alternative is required by law and serves as a basis of comparison to other alternatives.

Alternative 2: Monitored Natural Attenuation

This alternative would rely solely on natural attenuation processes to clean up impacted ground water. In addition, vapor intrusion prevention systems would be installed and private irrigation wells would be removed, as necessary. Institutional controls would restrict future development of water supplies in the impacted area, and a soil management plan would be developed for a small area of on-site soils impacted by arsenic.

Alternative 3: Enhanced Bioremediation and In Situ Chemical Oxidation

Alternative 3 includes all of Alternative 2 exposure prevention activities and institutional controls, and also includes enhancing the natural biodegradation of VOC impacts in the upper (A-Zone) ground water zone. Deeper (B-Zone) ground water impacts would be addressed using a chemical oxidant like potassium permanganate (KMnO_4).

Alternative 4: Permeable Reactive Barrier and In Situ Chemical Oxidation

Alternative 4 includes all of Alternative 2 exposure prevention activities and institutional controls, and also includes the installation of a *zero-valent iron* permeable reactive barrier (PRB) in the upper-most ground water unit (A-Zone). Similar to Alternative 3, deeper (B-Zone) ground water impacts would be addressed using a chemical oxidant like KMnO_4 .

Alternative 5: Permeable Reactive Barrier

Alternative 5 includes all of Alternative 2 exposure prevention activities and institutional controls, and also includes the installation of a zero-valent iron PRB in both the upper-most (A-Zone) ground water unit and the deeper (B-Zone) ground water unit.

Alternative 6: Pump and Treat

Alternative 6 includes all of Alternative 2 exposure prevention activities and institutional controls, and also includes the installation of a ground water extraction and treatment system capable of cleaning up the A and B Zones.

Alternatives Analysis

Before a final cleanup method is selected, the alternatives are evaluated using criteria established by USEPA. The criteria are:

1. Overall protection of human health and the environment
2. Compliance with Applicable or Relevant and Appropriate Requirements
3. Long-term effectiveness
4. Reduction of toxicity, mobility, or volume through treatment
5. Short-term effectiveness
6. Implementability
7. Cost
8. Community Acceptance

At this point, the RPs have only evaluated the first seven criteria. The cleanup plan will be approved only after considering input from the community. We ask that you submit your comments on this plan to the Water Board by September 1, 2006.

Preferred Cleanup Alternative

The detailed and comparative analysis presented in the FS provides a basis for determining which remedial alternative is most appropriate for protecting human health and the environment and managing long-term risk. The preferred cleanup alternative (Remedial Alternative 4) includes the following components:

- Zero-valent iron PRB for A-Zone ground water. (See Figure 2 on the following page for an illustration of an injected PRB);
- Chemical oxidation for B-Zone ground water;
- Institutional controls for a single location of arsenic-impacted subsurface soil on the Hookston Station Parcel in the form of a soil management plan;
- Vapor intrusion prevention systems;
- Removal of private wells from residences that overlie the downgradient study area; and
- Institutional controls to restrict future development of water supplies within the impacted area until final ground water cleanup goals are achieved.

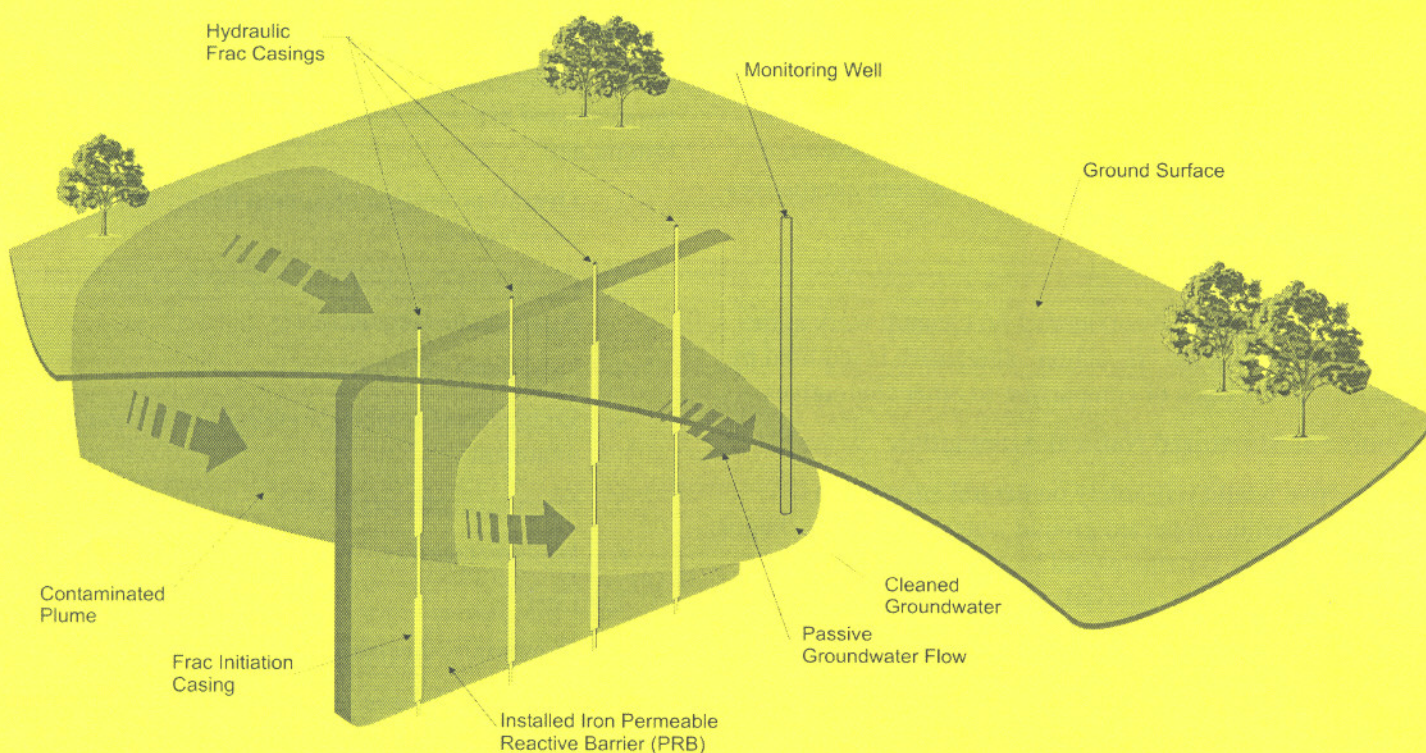


Figure 2: Example of an injected zero-valent iron permeable reactive barrier. Graphic courtesy GeoSierra, Inc.

Glossary of Terms

MTBE – Methyl-tertiary Butyl Ether – a gasoline additive, intended to reduce air pollution, which has sometimes contaminated ground water through releases from underground storage tanks.

Tetrachloroethene (PCE) – PCE is a volatile, nonflammable liquid used for dry cleaning and textile processing, as a chemical intermediate, and for vapor degreasing in metal-cleaning operations. It is not known whether PCE causes cancer.

Trichloroethene (TCE) – TCE is a volatile, nonflammable liquid used as an industrial degreasing solvent. It is not known whether TCE causes cancer.

Volatile organic compounds (VOCs) – VOCs are organic liquids, including many common solvents, that readily evaporate at temperatures normally found at ground surface and at shallow depths. Many VOCs are known human carcinogens. Examples of VOC usage include dry cleaning, solvents, carburetor cleaner, brake cleaner, and paint solvents.

Zero-valent Iron – Granular iron metal used in the clean-up of select chlorinated VOCs. The iron chemically reacts with select chlorinated VOCs and produces less toxic by-products.

Next Steps

Water Board staff will consider comments and prepare a new enforceable order that describes the final site cleanup requirements (final SCR order). The final SCR order will approve the cleanup plan (including any necessary changes), set cleanup standards, and lay out an enforceable implementation schedule. The public will also have an opportunity to comment on the final SCR order. The Board will consider adoption of the final SCR order following a public hearing. We anticipate this will occur in late 2006.

GET INVOLVED! - PUBLIC PARTICIPATION OPPORTUNITIES

The public comment period on Feasibility Study will extend from August 1 through September 1, 2006. Your comments to the Water Board are invited. All written and verbal comments received by the Water Board will be considered prior to approving the Feasibility Study.

Feasibility Study Online: <http://www.waterboards.ca.gov/sanfranciscobay/sitecleanup/docs.htm>

Written Comments: Written comments postmarked no later than September 1, 2006 should be sent to:

Mary Rose Cassa
California Regional Water Quality Control Board
San Francisco Region
1515 Clay Street, Suite 1400
Oakland, CA 94612

E-mail Comments: Comments may be sent by e-mail to: mcassa@waterboards.ca.gov.

Community Meeting: A public meeting will be held on the Feasibility Study on:

Date: August 10, 2006
Time: 7:00 to 9:00 PM
Location: Fair Oaks Elementary School
Address: 2400 Lisa Lane, Concord, California

Local Information Repository: Documents related to the Hookston Station site are available for public review at the Pleasant Hill Library located at 1750 Oak Park Boulevard in Pleasant Hill, California. Call (925) 646-6434 for information on library hours. The full Administrative Record is located in the File Room of the Water Board's office in Oakland.

For Further Information or for a Copy of the Feasibility Study on CD: Contact Mary Rose Cassa at (510) 622-2447 or mcassa@waterboards.ca.gov.